

Claims:

1-34 Previously Canceled

35. (Original) An apparatus for the relative movement of hairs through and facilitation of their controlled isolation, comprising:

- A hair isolation area means for substantially isolating at least one surface-attached hair-like fiber from any said surface-attached hair-like fibers trailing it;
- a cued hair supply means for supplying cued surface-attached hair-like fibers in which the hair-like fibers are cued substantially in the order that they will be supplied and between two supply cycles said cued surface-attached hair-like fibers remain substantially cued so that a substantially defined set of the trailing cued hairs can be supplied immediately after those leading hairs that were supplied in the immediately prior supply cycle and yet to be successfully supplied hairs wait their turn substantially in cue to be supplied in the following supply cycle;
- a repeating dispensing means for repeatedly dispensing substantially intact a substantially controlled amount of hair into said hair isolation area means by repeatedly receiving hair from said cued hair supply means and dispensing it into said hair isolation area means.

36. (Original) The apparatus of claim 35 further comprising:

- a dispensing actuation means for actuating said repeating dispensing means;
- a hair-flow sequencing control means for controlling the actuation of said dispensing actuation means so as to dispense hair into said hair isolation area means at a moment in the processing sequence when said hair isolation area means is ready to accept more hair.

37. (Original) The apparatus of claim 35 further comprising:

- a hair processing means for processing said surface-attached hair-like fibers so as to change their cosmetic appearance, whereby it processes hairs in said hair isolation area means;
- a hair processing actuation means for actuating said hair processing means;
- a hair processing sequencing control means for controlling the actuation of said hair processing actuation means in order to cause the actuation of said hair processing means so that processing occurs when said surface-attached hair-like fibers are positioned appropriately relative to said hair processing means so as to be ready for processing.

38. (Original) The apparatus of claim 35 further comprising a straightening maintenance means for providing and maintaining longitudinal lengths of said surface-attached hairs in a substantially perpendicular orientation relative to their direction of movement through relevant portions of said apparatus.

39. (Original) The apparatus of claim 38 wherein said straightening maintenance means comprises a hair tensioning means for applying tension to said surface-attached hairs so as to cause the orientation of their longitudinal shafts relative to the surface which they are attached to be substantially perpendicular.
40. (Currently Amended) The apparatus of claim 38 wherein said straightening maintenance means comprises a perpendicular orientation sensor control means for providing and maintaining said surface-attached hairs in a substantially perpendicular orientation relative to their direction of movement through by using sensor-controlled movement of said relevant portions of said apparatus relative to said surface-attached hairs.
41. (Original) The apparatus of claim 40 wherein said perpendicular orientation sensor control means comprises a tension-based sensor-control means for basing relative movement control of said relevant portions of said apparatus on tension detected in said surface-attached hair-like fibers.
42. (Original) The apparatus of claim 40 wherein said perpendicular orientation sensor control means comprises a speed-based sensor control means for basing relative movement control of said relevant portions of said apparatus on speed of advancement of said relevant portions of said apparatus relative to the surface of hair attachment.
43. (Original) The apparatus of claim 35 wherein said repeating dispensing means comprises a hair transport means for engaging a limited number of hairs in said cued hair supply means and transporting them into said hair isolation area means.
44. (Original) The apparatus of claim 43 further comprising a hair processing means for processing said surface-attached hair-like fibers in a manner so as to change their cosmetic appearance in which at least some of the cosmetic change is facilitated using a force whose source is independent of any force applied by any movement of said hair transport means, whereby said hair processing means is positioned so as to have access to hairs in said hair isolation area means.
45. (Original) The apparatus of claim 43 further comprising a subsequent hair transport means for engaging the hairs provided to said hair isolation area means by said repeating dispensing means and further transporting said hairs.
46. (Original) The apparatus of claim 35 wherein said repeating dispensing means comprises a hair pathway obstruction means for intermittently obstructing the path of hair flow from said cued hair supply means to said hair isolation area means.

47. (Original) The apparatus of claim 46 further comprising:

- a hair metering area that is positioned at a point along the hair-flow pathway earlier encountered than said hair pathway obstruction means so that the path of hair flow from said hair metering area into said hair isolation area means is intermittently obstructed by said hair pathway obstruction means;
- a hair pushback gate means for intermittently obstructing the path of hair flow from said cued hair supply means into said metering area so as to substantially isolate a limited number of hairs in said metering area between said hair pushback gate means and said hair pathway obstruction means allowing substantially only the hairs in said metering area to pass said hair pathway obstruction means upon its intermittent allowance of hair flow.

~~64~~ 48. (Currently Amended) The apparatus of claim 35 further comprising:

- a hair-extension supply means for supplying hair extensions into said hair isolation area means;
- a hair attachment substance means for attaching said hair extensions to said surface-attached hair-like fibers, whereby said attachment substance means provides continued attachment of the hairs;
- a hair attachment substance supply means for supplying said hair attachment substance means into said hair isolation area means in which it comes in contact with both said hair extensions and said surface-attached hair-like fibers so as to attach the two types of fibers together.

49. (Original) The apparatus of claim 48 further comprising an attachment substance supply sequencing control means for controlling said hair attachment substance supply means so as to provide said hair attachment substance means into said hair isolation area means at a moment in the processing sequence when the hairs to be attached are in said hair isolation area means.

50. (Original) The apparatus of claim 48 further comprising:

- an attachment substance fixation means for fixing said attachment substance means so as to effectuate the attachment of said hair extensions to said surface-attached hair-like fibers;
- an attachment substance fixation supply means for supplying said attachment substance fixation means into said hair isolation area means so that it may be introduced to said attachment substance means in order to effectuate attachment of the hairs.

51. (Original) The apparatus of claim 48 further comprising an excess attachment substance removal means for removing any excess of said hair attachment substance means from said hair isolation area means so as to leave a coating of said hair attachment substance means on the hairs to be attached.

52. (Original) The apparatus of claim 35 further comprising:

- a longitudinal hair movement means for moving at least one of said surface-attached hair-like fibers in a longitudinal direction along its shaft relative to and through said hair isolation area means so as to convey a length of said surface-attached hair-like fiber through said hair isolation area means;

- a coating substance;
- a coating substance supply means for supplying said coating substance to said surface-attached hair-like fiber that is in said hair isolation area means so as to coat said surface-attached hair-like fiber as it is conveyed longitudinally through said hair isolation area means.

53. (Original) The apparatus of claim 35 further comprising:

- a longitudinal hair movement means for moving at least one of said hair surface-attached hair-like fibers in a longitudinal direction along its shaft relative to and through said hair isolation area means so as to convey a length of said surface-attached hair-like fiber through said hair isolation area means;
- a cross-sectional reshaping means for reshaping the cross-sectional shape of said surface-attached hair-like fiber as it is conveyed longitudinally through relative to said cross-sectional reshaping means by said longitudinal hair movement means, whereby said cross-sectional reshaping means is situated to have access to the hair fiber as it is longitudinally conveyed through said hair isolation area means.

54. (Original) The apparatus of claim 35 further comprising:

- a hair surface row segregation means for segregating said surface-attached hair-like fibers substantially originating from two adjacent surface areas so that the segments of the hair shafts that will be processed are segregated in a specific row prior to and during hair dispensing by said repeating dispensing means and said hair surface row segregation means rests on the surface to which said surface-attached hair-like fibers are attached and is substantially stationary relative to said surface during processing,;
- a track guide means for guiding said repeating dispensing means by substantially continuous contact between said track guide means and said repeating dispensing means so as to provide alignment with one of the segregated rows of surface-attached hair-like fibers so as to allow the hair segments from substantially only this single segregated row to be guided into said repeating dispensing means as it moves along a substantially defined path that substantially coincides with said single segregated row and this alignment during repeating dispensing means movement is possible individually for both adjacent rows of segregated surface-attached hair segments.

55. (Original) The apparatus of claim 54 further comprising:

- a position ascertaining means for ascertaining longitudinal position of said hair isolation area means along a specific row of said track guide means;
- a row determination means for ascertaining within which of the segregated rows said hair isolation area means is positioned;
- a longitudinal conveyance means for conveying a longitudinal segment of a group of at least one surface-attached hairs longitudinally through said hair isolation area means;

- a hair length measurement means for ascertaining the longitudinal length of said longitudinal segment of the group of surface-attached hairs that has been conveyed through said hair isolation area means by said longitudinal conveyance means;
- a cutting means for cutting hair that is in said hair isolation area means;
- a cutting control means for using data coming from said position ascertaining means and said row determination means and said hair length measurement means and corresponding to a specific longitudinal position along a specific segregated row to compare to intended hair length data substantially corresponding to the position so as to trigger said cutting means to cut the group of longitudinally conveyed hairs at a moment when the group's linear length measured from said cutting means to the surface of hair attachment approximately equals the intended hair length.

56. (Original) The apparatus of claim 35 further comprising a bend-under means for applying a conveying force that conveys surface-attached hair-like fibers through said apparatus at a rate faster than said apparatus is moving relative to the surface of hair attachment causing said surface-attached hair-like fibers to be conveyed substantially longitudinally along their shafts through and relative to said apparatus and under an obstructing portion of said apparatus.

57. (Original) The apparatus of claim 56 wherein said bend-under means comprises a below obstruction bend-under means for engaging said surface-attached hair-like fibers at a location partially below an obstructing portion of said apparatus and applying a conveying force that conveys the hair-like fibers at a rate faster than said apparatus is moving relative to the surface of hair attachment causing said hair-like fibers to be conveyed longitudinally along their shafts through said apparatus and under said obstructing portion of said apparatus.

58. (Original) The apparatus of claim 56 wherein said bend-under means comprises a rotary conveyance means for applying a conveying force to said surface-attached hair-like fibers by engaging said surface-attached hair-like fibers at a point which moves on a rotary mechanism.

59. (Original) The apparatus of claim 35 further comprising an apparatus elevation conveyance means for applying a relative conveying force to said surface-attached hair-like fibers by elevating an obstructing portion of said apparatus away from the surface to which said hair-like fibers are attached so as to convey the fibers substantially longitudinally along their shafts through said apparatus and under said obstructing portion of said apparatus.

60. (Original) The apparatus of claim 35 further comprising:

- an attachment substance degrading means for degrading an attachment substance that is holding hair extensions together with said surface-attached hair-like fibers;

- an attachment degrading application means for applying said attachment substance application degrading means to hairs isolated in said hair isolation area means;
- a detached hair extension separation conveyance means for conveying hair extensions detached by said attachment substance degrading means away from said surface-attached hair-like fibers.

61. (Currently Amended) The apparatus of claim 35 further comprising:

- a hair-flow reversing means for causing surface-attached hairs that have entered said hair isolation area means to exit it substantially in the reverse net relative direction that they approached said hair isolation area means to enter it;
- an exiting hair separation means for intermittently substantially separating the exiting hairs that reversed direction so as to exit said hair isolation area means from the hairs in said cued hair supply means and said exiting hair separation means is positioned along the hair-flow path between said hair isolation area means and the hairs in said cued hair supply means;
- a reversed hair exit pathway means for allowing the exiting hairs that have been reversed in direction out of said hair isolation area means by said hair-flow reversing means to exit said apparatus through said reversed hair exit pathway means and its origin is positioned along the hair-flow path between said exiting hair separation means and said hair isolation area means and its terminus is positioned clear of the path of hair flow into said repeating dispensing means so as to direct the exiting hairs away from reentering said repeating dispensing means.

62. (Original) An apparatus for attaching hair extensions to surface-attached hair-like fibers, comprising:

- a hair attachment area in which said hair extensions are attached to said surface-attached hair-like fibers;
- a hair-extension supply means for supplying hair extensions into said hair attachment area;
- a surface-attached hair-like fiber supply means for supplying said surface-attached hair-like fibers into said attachment area;
- a hair attachment substance means for attaching said hair extensions to said surface-attached hair-like fibers;
- a hair attachment substance supply means for supplying said hair attachment substance means into said hair attachment area in which it comes in contact with both said hair extensions and said surface-attached hair-like fibers so as to attach the two types of hairs together.

63. (Original) The apparatus of claim 62 further comprising an attachment substance supply sequencing control means for controlling said hair attachment substance supply means so as to trigger release of said hair attachment substance means into said hair attachment area at a moment in the processing sequence when the hairs to be attached are in said hair attachment area.

64. (Original) An apparatus for the processing of hairs which are attached to a surface configured so that processing of any hair only occurs a substantially controlled number of times, comprising:

- a hair processing means for processing surface-attached hair-like fibers so as to change their appearance as a group;
- a hair surface row segregation means for segregating said surface-attached hair-like fibers substantially originating from two adjacent surface areas so that the segments of the hair shafts that will be processed are segregated in a specific row prior to and during processing by said hair processing means and said hair surface row segregation means rests on the surface to which said surface-attached hair-like fibers are attached and is substantially stationary relative to said surface during processing,;
- a track guide means for guiding said hair processing means by substantially continuous contact between said track guide means and said hair processing means so as to provide alignment with one of the segregated rows of surface-attached hair-like fibers to allow the hair segments from substantially only this single segregated row to be guided into said hair processing means as it moves along a substantially defined path that substantially coincides with said single segregated row and this alignment during hair processing means movement is possible individually for both adjacent rows of segregated surface-attached hair segments.

65. (Original) The apparatus of claim 64 wherein said hair processing means comprises a means for attaching hair extensions to said surface-attached hair-like fibers and further comprising:

- a hair attachment area in which said hair extensions are attached to said surface-attached hair-like fibers;
- a hair-extension supply means for supplying hair extensions into said hair attachment area;
- a surface-attached hair-like fiber supply means for supplying said surface-attached hair-like fibers into said attachment area;
- a hair attachment substance means for attaching said hair extensions to said surface-attached hair-like fibers;
- a hair attachment substance supply means for supplying said hair attachment substance means into said hair attachment area in which it comes in contact with both said hair extensions and said surface-attached hair-like fibers so as to attach the two types of hairs together.

66. (Original) An apparatus for attaching non-surface-attached hair-like fibers to a surface amongst surface-attached hair-like fibers already attached to said surface, comprising:

- a hair channel pathway means for guiding said surface-attached hair-like fibers into an area of high concentration coinciding with said hair channel pathway means so as to leave an area of decreased surface-attached hair-like fiber concentration lateral to said hair channel pathway means;

- an application area means for applying non-surface-attached hair-like fibers in proximity to said surface wherein said application area means is positioned to substantially coincide with said area of decreased surface-attached hair-like fiber concentration;
- a supply means for supplying said non-surface-attached hair-like fibers into said application area means;
- an attachment means for attaching said non-surface-attached hair-like fibers in said application area means to said surface, whereby said non-surface-attached hair-like fibers may either be attached directly to said surface or indirectly attached to said surface by way of attachment to the pre-existing surface-attached hair-like fibers.

67. (Original) The apparatus of claim 66 wherein said supply means comprises a unified group supply means for supplying a unified group of non-surface-attached hair-like fibers into said application area means.

68. (Original) The apparatus of claim 66 wherein said application area means comprises an attachment area means in which attachment of non-surface-attached hair-like fibers to said surface occurs.

69. (Original) The apparatus of claim 66 wherein said non-surface-attached hair-like fibers are in the form of a hair plug and wherein said attachment means comprises a sub-dermal hair plug delivery means for delivering said hair plug sub-dermally into to the surface of hair attachment and wherein said surface of hair attachment is the scalp.

70. (Original) The apparatus of claim 64 wherein said hair surface row segregation means comprises multiple rows that together substantially form a cap structure that substantially conforms to a human head.

71. (Original) The apparatus of claim 64 wherein said hair processing means comprises a hair cutting means for cutting said surface-attached hair-like fibers so as to change their appearance as a group.

72. (Original) The apparatus of claim 64 wherein said hair processing means comprises a hair extension attachment means for attaching hair extensions to said surface-attached hair-like fibers so as to change the appearance of said surface-attached hair-like fibers as a group.

73. (Original) The apparatus of claim 64 wherein said hair processing means comprises a cross-sectional reshaping means for reshaping the cross-sectional shape of said surface-attached hair-like fibers as they are longitudinally conveyed through relative to said cross-sectional reshaping means.

74. (Original) The apparatus of claim 64 wherein said hair processing means comprises a hair coating application means for applying a coating to said surface-attached hair-like fibers as they are longitudinally conveyed through relative to said hair coating application means.

75. (Original) The apparatus of claim 64 wherein said hair processing means comprises a sub-dermal hair plug delivery means for delivering a hair plug sub-dermally into to the surface of hair attachment so as to change the appearance of the pre-existing surface-attached hair-like fibers as a group and wherein said surface of hair attachment is the scalp.

~~77-76~~. (Currently Amended) The apparatus of claim 62 wherein said surface-attached hair-like fiber supply means substantially supplies said surface-attached hair-like fibers by way of said apparatus's relative movement along a vector whose direction is substantially parallel to the surface to which said surface-attached hair-like fibers are attached so as to encourage these fibers to enter said surface-attached hair-like fiber supply means and this direction of movement is substantially continuous between entrance of two separate batches of hair into said hair attachment area.

~~76-77~~. (Currently Amended) The apparatus of claim ~~77~~ 76 further comprising a bend-under means for applying a conveying force that conveys said surface-attached hair-like fibers through said apparatus substantially longitudinally along their shafts at a linear rate faster than said apparatus is moving along a vector whose net direction is substantially parallel relative to the surface to which said surface-attached hair-like fibers are attached so as to cause said surface-attached hair-like fibers to be conveyed substantially longitudinally along their shafts through and relative to said apparatus and under an obstructing portion of said apparatus, thereby assisting their exit from said apparatus.

78. (Currently Amended) The apparatus of claim 62 wherein said surface-attached hair-like fiber supply means substantially supplies said surface-attached hair-like fibers by moving along a vector whose relative direction is substantially parallel to the surface to which said surface-attached hair-like fibers are attached so as to encourage these fibers to enter said surface-attached hair-like fiber supply means and this direction of movement is substantially continuous between entrance of two separate batches of hair into said hair attachment area, further comprising:

- a hair-flow reversing means for causing surface-attached hairs that have entered said hair attachment area to exit it substantially in the reverse net relative direction that they approached said hair attachment area ~~from~~ to enter it;
- an exiting hair separation means for intermittently substantially separating the exiting hairs that reversed direction so as to exit said hair attachment area from the hairs in said surface-attached hair-like fiber supply means that have yet to enter said hair attachment area and said exiting hair separation means is positioned along the hair-flow path between said hair attachment area and the

hairs in said surface-attached hair-like fiber supply means that have yet to enter and be cosmetically processed in said attachment area;

- a reversed hair exit pathway means for allowing the exiting hairs that have been reversed in direction out of said hair attachment area by said hair-flow reversing means to exit said apparatus through said reversed hair exit pathway means and its origin is positioned along the hair-flow path between said exiting hair separation means and said hair attachment area and its terminus is positioned clear of the entrance path of hair flow into said attachment area so as to direct the exiting hairs away from reentering said attachment area.

79. (Currently Amended) An apparatus for the cross-sectional reshaping of a surface-attached hair-like fiber comprising:

- a hair isolation area means in which at least a single surface-attached hair-like fiber can be substantially isolated from other surface-attached hair-like fibers;
- a longitudinal hair movement means for moving at least one of said hair surface-attached hair-like fibers in a longitudinal direction along its shaft relative to and through said hair isolation area means so as to convey a length of said surface-attached hair-like fiber through said hair isolation area means;
- a cross-sectional reshaping means for reshaping the cross-sectional shape of said surface-attached hair-like fiber as it is conveyed longitudinally through relative to said cross-sectional reshaping means by said longitudinal hair movement means, whereby said cross-sectional reshaping means substantially overlaps is situated to have access to the hair fiber as it is longitudinally conveyed through said hair isolation area means.

80. (Original) The apparatus of claim 79 wherein said cross-sectional reshaping means is comprised of a cutting edge that shaves material off the surface of said surface-attached hair-like fiber as it is conveyed through relative to said hair isolation area means.

81. (Original) The apparatus of claim 79 wherein said hair isolation area means is supplied said surface-attached hair-like fibers by apparatus's relative movement along a vector whose direction is substantially parallel to the surface to which said surface-attached hair-like fibers are attached so as to encourage these fibers to enter said hair isolation area means and this direction of movement is substantially continuous between entrance of two separate batches of hair into said hair isolation area means.

82. (Original) The apparatus of claim 35 further comprising a post-isolation hair transport means for engaging at least one of said surface-attached hair-like fibers in said hair isolation area means and transporting said surface-attached hair-like fiber.

83. (Original) The apparatus of claim 35 further comprising a hair presence sensor means for sensing the presence of at least one of said surface-attached hair-like fibers in said hair isolation area means.

Remarks/Arguments

Claims 35-83 which were allowed in the Notice of Allowance dated January 26, 2004 remain active in this application. They include some amendments. The following remarks were voluntarily made on December 30, 2003 and include amendments themselves as indicated by strikeouts and underlines. These remarks were made to help describe the intent of the claims. Examples given are not intended to include all possibilities. Thus, the scope of the claims should not be limited by the examples given.

35. Claim 35 mentions the "relative movement of hairs through" an apparatus because we are concerned with the hairs moving relative to the apparatus and not expressly interested in how that is brought about.

The first itemized element includes a hair isolation area means. It is said to isolate at least one hair from those trailing it. The phrase "trailing it" is used to describe hairs that are expected to substantially follow in the path of the isolated hairs of subject. The phrase "surface-attached hair-like fiber" is used to describe hairs that are attached to a surface in a similar manner that scalp hairs are attached to the surface of the scalp. The words "isolation" and "isolating" do not mean that the system has to provide perfect isolation of hairs along their entire lengths. Instead, the system only needs to provide enough isolation to commit the hairs it is isolating to an isolation area. However, the tips of these same "isolated" hairs may very well be mingling with the tips of "un-isolated" hairs.

The second itemized element mentions a "cued hair supply means." The word "cued" is used in the same sense as it is used for people standing in a line or cue. This is to say the hairs are waiting in a line to be processed. This element further defines this cued situation by specifying that "between two supply cycles" the hairs remain substantially cued. This means that when one or more leading hairs in line are supplied those in line substantially remain in order behind it or them. They do not necessarily retain their relative order perfectly. In fact, their retention of order can be far from perfect, but the idea is that the apparatus has not been completely repositioned on another portion of the scalp. The concept of "supply cycles" describes the cyclical nature of how hairs are supplied one or a few at a time while other hairs remain in line waiting for their turn to be supplied in the next supply cycle.

Also, it should be noted that the claim describes a "cued hair supply means." This "means" can be interpreted as having several potential meanings including the following: A "cued hair supply means" can be cued hair supply in and of itself the only requirement being that hairs are effectively lined-up and waiting to be supplied. However, the manner that they are lined up does not necessarily have to include any physical boundaries. The logical construct of a waiting line of hairs between two supply cycles is enough to define a cued hair supply means. However, a "cued hair supply means" may include physical boundaries that bound this waiting line of hairs. In such a case, the "cued hair supply means" could be considered to be the physical members that form these physical boundaries in addition to the hairs waiting in line themselves.

Furthermore, if there are physical boundary members, then these members themselves could be considered to be a "cued hair supply means," even when empty of the hairs they are intended to bound and supply in the system's active state.

The third itemized element mentions "a repeating dispensing means." This includes any means that can act to dispense a controlled amount of hair from a hair supply. For example, the entrance gates in the first-described embodiment in the specification serves as a dispensing means by allowing only a controlled amount of hair to pass it in any given cycle. In the specification, the metering area is shown as one way of helping the entrance gate in its dispensing function. The metering area formed between a pushback gate and an entrance gate only allows a certain volume of hair to enter and exit from it in any given processing/supply cycle, thereby assuring the system's hair dispensing accuracy. Of course, this increased accuracy is optional and thus the metering area is not specified as necessary in claim 35. The word "repeating" is used to remind us that this element acts repeatedly on the line of hairs waiting to be dispensed by it. The hairs in this cue or waiting line have remained waiting between two processing cycles and thus on a second or following cycle some hairs waiting in this cue will have their turn to be supplied by the repeating dispensing means.

Although the first instance in the first-described embodiment to which claim 35 applies is the assemblage of the pushback gate, metering area and entrance gate that makes the first contact with unprocessed hairs when they first enter the system, it can also apply to other functionally equivalent similar parts. For example, the holding gates described in the specification could be considered to be holding a cued hair supply within each of their holding notches in the holding

area, and each holding gate could be considered a form of entrance gate or a repeating dispensing means. Further, the transport forward gates could be considered to act as a dispensing means when they move the hairs within the holding notches into the processing/attachment area. And the processing/attachment area into which they are moved could be considered a hair isolation area means. In other words, one assemblage of claim-35-described elements can be used to feed into another assemblage of claim-35-described elements. (A cued hair supply feeding an isolation area and this isolation area itself holding a cued hair supply with reference to the downstream hair isolation area it feeds.) This is to say that they could be chained together. Further still, in the first-described embodiment, hairs in the attachment area (itself a hair isolation area) that are waiting for the pushout actuator and pullback hook could be considered cued. This is because together with the hairs that trail them (such as those waiting in areas such as the metering area or holding areas or the yet to be dispensed 'virgin' cued hair supply means) form a waiting line of hairs that can be said to form a cued hair supply means. Of course, in this case, the pushout actuator and pullback hook could be considered to be a repeating dispensing means. And the hair isolation area means that they supply would be the exit channel.

36. Claim 36 is dependent on claim 35. Its first itemized element "a dispensing actuation means" is intended to remind us that an actuator such as a solenoid may be used to animate the "repeating dispensing means" of claim 35.

Claim 36's second itemized element is "a hair-flow sequencing control means" is intended to remind us that the dispensing actuation means should be triggered at the right time in processing sequence. The words "hair-flow" are used simply because this timing or sequencing control affects the (cued) hair-flow (pathway) through the system.

37. Claim 37 is dependent on claim 35. Its first itemized element "a hair processing means" is intended to remind us that isolated surface-attached hairs may be processed in a cosmetic manner such as ~~having~~ attaching hair extensions to them.

Claim 37's second itemized element "a hair processing actuation means" reminds us that the hair processing means may be actuated. For example, an example of a processing means is a nozzle that applies a polymer adhesive bead to hairs. The device that imparts a force to propel such a bead could be said to be a hair processing actuation means.

Claim 37's third itemized element "a hair processing sequencing control means" reminds us that the hair processing means should be actuated at a time in the processing sequence of events when hairs are positioned in the correct area for processing. For example, the adhesive polymer beads should be dispensed from nozzles when the correct hairs are positioned in front of them. In contrast, if random actuation were used, then no hairs might be positioned in front of the nozzles or one group of hairs might have adhesive beads applied twice unnecessarily.

38. Claim 38 is dependent on claim 35. It includes the element "a straightening maintenance means." An example of such a device described in the specification is the hair tensioning straightener, sometimes called the straightener. Such a device helps ensure the surface-attached hairs (such as scalp hairs) are substantially ~~parallel~~ perpendicular relative to their direction of movement through the relevant portions of the apparatus of claim 35. The phrase "relevant portions" refers to those portions of the apparatus where a substantially perpendicular orientation of surface-attached hairs is relevant and desirable. An example of such a portion of the apparatus is the repeating dispensing means as embodied by the entrance gate in the first described embodiment in the specification. The phrase "longitudinal lengths of said surface-attached hairs" deals with the fact that only a certain segment of each hair fiber needs to be held in a perpendicular orientation.

39. Claim 39 is dependent on claim 38.

40. Claim 40 is dependent on claim 38. It specifies "a perpendicular orientation sensor control means" for maintaining surface-attached hairs in a substantially perpendicular orientation by using sensor-controlled movement of the apparatus. Recall, that if the apparatus is moving too fast over a surface such as the scalp that it will tend to flatten (make less perpendicular) the surface attached hairs in front of it. Thus, sensor-controlled movement can help prevent this by measuring actual speed and triggering a mechanism to slow the system down when the desirable speed is exceeded. Examples of such a "triggered" mechanism included a break to slow the system down or an alarm that indirectly slows the system down by letting the operator know the system needs to be slowed down. Claim 42 is an example of using speed of apparatus advancement in this manner. Claim 41 uses the tension in surface-attached hairs as a source of feedback.

41. Claim 41 is dependent on claim 40. Tension in surface-attached hairs is used as a source of feedback because it can be associated with how straight or perpendicularly hairs are oriented.

42. Claim 42 is dependent on claim 40. See explanation for claim 40.

43. Claim 43 is dependent on claim 35. It reminds us of a specific class of repeating dispensing means, specifically "a hair transport means." Examples in the specification include those that are said to have a transport forward function. This includes the dedicated transport forward gates and the multi-pushback gates. Remember, a cued hair supply can be yet-to-be isolated like it usually is in the case when first encountered by the multi-pushback gates or pre-isolated like it usually is in the case of the dedicated transport forward gates. The word "forward" is used in the phrase "transport forward" to remind us that the hairs are being actively advanced along their relative path of movement. Of course, different paths of movement maybe opposite in direction as the paths of movement of scalp hairs and hair extensions are usually shown to be in the first embodiment.

44. Claim 44 is dependent on claim 43. It additionally includes "a hair processing means." The change in cosmetic appearance it talks about can be to individual hairs as would be the case in applying a colorant coating to them. Or it could be a cosmetic change that manifests itself more obviously at the aggregate level such as attaching hair extensions to or amongst scalp hairs. This claim specifies that the cosmetic change is facilitated using a force whose source is independent of "said hair transport forward means." The idea of independence describes a setup in which the cosmetic change can be facilitated using a force whose source is other than movement of the hair transport forward means. For example, the force needed to squirt a bead of adhesive onto hairs comes from a source that's independent of any inherent in the movement of a transport forward gate.

45. Claim 45 is dependent on claim 43. It reminds us that "a subsequent hair transport means" can engage hairs that have already been dispensed by a repeating dispensing means and transporting them further. For example, hairs dispensed into holding notches by a repeating dispensing means such as the single hair isolation systems described in the specification can then be transported further by the dedicated transport forward gates ~~which can be said to be acting as "a subsequent hair transport means."~~ Further still, once these dedicated transport forward gates take hairs to the attachment area they can be engaged by the pushout actuator described in the specification. This pushout actuator could be said to be acting as yet another "a subsequent hair transport means" because it is taking previously dispensed hairs (dispensed into the attachment area by the dedicated transport forward gates) and further transporting them.

46. Claim 46 is dependent on claim 35. It describes, "a hair pathway obstruction means" reminding us that a device that intermittently obstructs the path of hair flow from a hair supply can be used as a type of repeating dispensing means. An example of such "a hair pathway obstruction means" given in the specification is the entrance gate. The holding gates described in the specification can also be said to be acting in this manner.

47. Claim 47 is dependent on claim 46. It reminds us how the metering area formed between a pushback gate and hair pathway obstruction means (often an entrance gate) can be used to refine the dispensing control of the hair pathway obstruction means. Although those structures specifically described as pushback gate and entrance gate in the specification might be the most salient examples, any functionally equivalent structures may be substituted in place of them.

48. Claim 48 is dependent on claim 35. It includes additional elements for the attachment of cosmetic hair extensions.

The first itemized element is "a hair-extension supply means." This supply means can include a hair-extension supply in isolation not including any holding or bounding means, a supply of hair extensions with a holding or bounding means, or a hair-extension supply holding or bounding means devoid of the hair extensions it would hold in its active state. An example from the specification of such a holding or bounding means used as a "hair-extension supply means" is a hair-extension-holding clip such as those of the clip cartridge. However, the physical hair pathway boundaries that direct the hair-extension to the isolation area, such as the one referred to in the specification as the tip-trench can themselves be considered a hair-extension supply means.

The second itemized element is "a hair attachment substance means." This can include any substance for attaching hair extensions to surface-attached hairs. For example, the specification first presents UV curable beads of polymer, and this should be considered a hair attachment substance means. Further examples from the specification of a hair attachment substance means include hot melt adhesives and gases used in chemical vapor deposition to form a film around hairs to be attached, crimped metal, fibers.

The third itemized element is "a hair attachment substance supply means." This includes any pathway or conduit for supplying attachment substance means. For example, the specification mentions hermetically sealed channels that feed nozzles that ~~which~~ output attachment substance into the attachment area.

49. Claim 49 is dependent on claim 48. This claim reminds us that using "an attachment substance supply sequencing control means" is desirable. An example of this in the specification is triggering the output of polymer beads (ejected liquid polymer) at a time in the processing cycle when scalp-attached hairs and hair extensions are held in attachment chambers in front of the polymer nozzles. A similar example in the specification includes triggering an orchestrated cascade of various types of substances that aid in attachment such as cyanoacrylate adhesive and wax rosin. Triggering such a cascade at a point in the attachment sequence when scalp-attached hairs and hair extensions are held in front of the nozzles in the attachment/isolation area is highly desirable.

50. Claim 50 is dependent on claim 48. This claim reminds us that use of "an attachment substance fixation means" that makes possible or accelerates the cure, hardening or effective functionality of the attachment substance means is desirable. The phrase "hair attachment substance means" as used in claim 48 subsumes "attachment substance fixations means" if any is used. This is because such a fixation means is acting as part of the "hair attachment substances means." Nevertheless, it is introduced as an additional element in claim 50 to remind us of situations where ~~it is used~~ multiple-component attachment means are used. The specification includes different examples of "an attachment substance fixation means" including UV light to

cure polymer, cooling fluid to accelerate the hardening of hot melt adhesives and substances that accelerate the cure of cyanoacrylate adhesives.

The second itemized element of this claim is "an attachment substance fixation supply means."

This can include any means of conveying attachment substance fixation means into the hair isolation area. Examples from the specification include the UV prism for transporting UV light to the UV curable polymer beads in the attachment area and the cooling fluid supply channels for transporting cooling fluid to the hot wax used in the attachment area.

51. This claim is dependent on claim 48. It reminds us that a means of removing excess attachment substance from the hair isolation may be desirable. Two examples from the specification of such a system are implementations that suck attachment fluids back into the nozzles that output them ~~out~~ and separate vacuum intakes that suck up excess attachment substance from the attachment area.

52. Claim 52 is dependent on claim 35. Its first itemized element mentions "a longitudinal hair movement means." By longitudinal, it is meant along the length of a hair's shaft. Thus, relative to the hair's isolation area, different points along a hair shaft are moved by the longitudinal hair movement means.

Its second itemized element is a coating substance. This is any substance for coating a hair. Examples include but are not limited to an adhesive substance, a coloring substance, a chemical curling or straightening substance.

The third itemized element is a coating substance supply means. An example is a hermetically-sealed passageway that carries coating substance to the surface-attached hair-like fiber that is in said hair isolation area so as to coat this hair (or hairs) as it (or they) move lengthwise through said hair isolation area.

53. Claim 53 is dependent on claim 35. The second itemized element is "a cross-sectional reshaping means that processes fibers moving longitudinally through the hair isolation means. This includes any means of giving a surface-attached hair a different cross-section. A different cross-section can include a cross-section of an entirely different shape or a cross-section with a highly similar shape to the original but a different size. The cross-sectional reshaping means acts on the hairs as they are being conveyed through the hair isolation area. It is said to be "situated to have access to the hair fiber as it [the fiber] is longitudinally conveyed through said hair isolation area means." This is say it has access to the hair fiber regardless of whether the cross-sectional reshaping means is located within the hair isolation area means. The longitudinal hair movement means moves hair longitudinally and relative to and through said hair isolation area means. By longitudinally, it is meant a direction along the length of a hair. By "relative to," it is meant that it does not matter in absolute terms whether the hair or the hair isolation area moves.

54. Claim 54 is dependent on claim 35.

Its first itemized element is "a hair surface row segregation means." An example of such an apparatus described in the specification is the track cap guide. This is the apparatus that looks like a helmet for the head divided into parallel rows or tracks. When the claim mentions two adjacent surfaces, this corresponds to two adjacent rows of hair in the track cap. The claim mentions "segments of the hair shafts that will be processed are segregated." The reason that the word "segments" is used is to remind us that only a portion of the each hair needs to be segregated from others in adjacent rows. For example, the more distal ends (farther from scalp) of scalp hairs do not need to be segregated prior to isolation. It is only necessary for more proximal (closer to the scalp) portions of such hairs to be segregated because it is these more proximal portions that will first come into contact with the repeating dispensing means so as to be placed in an isolation area.

It is said that the "surface row segregation means rests on the surface to which said surface-attached hair-like fibers are attached." However, note that resting on any contiguous portion of the surface of hair attachment will do. It does not have to rest on that portion of the surface to which the hairs are directly attached. For example, the track cap could rest largely or entirely on the forehead or neck. Further still, any contiguous portion of surface can mean any portion of the skin surface anywhere on the human body. Also, a row segregation means such the track cap can be said to be substantially stationary. However, this does not mean that it has to be perfectly stationary. It may flex or move slightly and still perform its job.

The second itemized element is "a track guide means." In the case of the track cap example, the track guide means portions and row segregation means portions may physically be one and the same. However, the concept of track guide is introduced to remind us that the portions of the apparatus that contain the repeating dispensing means may be guided in a manner so as to follow along a given row of segregated hairs. In the case of the track cap, we see multiple segregated adjacent rows for which this guided alignment is possible for each simply by sliding along the tracks. This element speaks of "contact between said track guide means and said repeating dispensing means," this contact does not have to be direct. For example, the outer housing of the apparatus that surrounds the repeating dispensing means could be in direct contact with the track guide means, thus, acting as an intermediary structure.

55. Claim 55 is dependent on claim 54. Its refinements help us understand how the technology can be used for providing a carefully controlled hair cut.

The first itemized element is "a position ascertaining means." It ascertains longitudinal position along a specific row of the track guide means. The word "longitudinal" is being used in reference to a specific segregated row and in this element not in reference to the longitudinal direction of a shaft of hair. Thus, the system is doing the equivalent of ascertaining its position along the length of a segregated row.

The second itemized element is "a row determination means." Here the system is determining which row it is currently being processed ~~responsible for cutting~~.

The third itemized element is "a longitudinal conveyance means." It describes a similar mechanism as the first itemized element of claim 52. Thus, the word "longitudinal" is being used to reference a different type of object than it is in the first itemized element of this claim (claim 55). In this itemized element, "longitudinal" refers to along the length of a hair shaft.

The fourth itemized element is "a hair length measurement means." This element is measuring the length of hair that has been conveyed through the hair isolation area means.

The fifth itemized element is "a cutting means." It cuts those hairs that are in the hair isolation area. However, it does not necessary do its cutting inside of the hair isolation area.

The sixth itemized element is "a cutting control means." It decides when its is time to trigger the cutting means. It does this by using the track-advancement position data coming from the position ascertaining means and also data from the row determination so as to know in which row the system is currently operating. Knowing which row the system is in along with the position along the length of that row allows the system to estimate operational position. For example, in the case of the track cap, it allows the absolute position on the head to be estimated. By combining this estimated position with hair length data from the "hair length measurement means," the system compares intended hair length data corresponding to this position and the cutting means will be triggered when the intended hair length and measured hair length are approximately equal. By "intended" hair length, it is meant the length of hair that is "intended" after cutting.

56. Claim 56 is dependent on claim 35. The device of claim 35 left to itself can only allow so much hair to run through it before that hair must exit so as not to cause an excess of hair in the

Appl. No. 09/530,303 Amdt Date: 04-26-04 Filing: 4-27-00 GAU: 3732 Exmnr: Manahan, T device. Thus, claim 56 calls for the use of "a bend-under means." This bend-under means causes surface-attached hairs to be conveyed substantially longitudinally along their shafts through the apparatus. In this sense, it is applying a longitudinal conveyance along hair shafts. Thus, longitudinal is being used in much the same sense as it was in claim 52. That is to say to mean along the length of a hair shaft. Since the surface attached hairs are being longitudinally conveyed at rate faster than the apparatus is moving relative to the surface that they are attached (for example relative to the scalp surface), the hairs can be conveyed out of the system faster than they can build up in it. Also, this claim suggests that the hairs are conveyed under an obstructing portion of the apparatus. The word "under" should be understood to mean a level between the surface of hair attachment (like the scalp) and those portions the apparatus that would otherwise obstruct the hairs. It does not mean that the hairs have to pass directly under such obstructing portions. It is said to convey the fibers "relative to" said apparatus. The use of the word "relative" meaning that the conveying force may move the apparatus relative to the hairs or vice versa.

57. Claim 57 is dependent on claim 56. It describes an embodiment where the point of engagement is at least partially below (not necessarily directly below but at a level below) a would-be obstructing portion of the apparatus. In contrast, claim 56 only specifies that the hairs will be conveyed under a would-be obstructing portion, not necessarily that they are engaged under an obstructing portion. "Engaged" refers the point at which force is applied to the hairs being conveyed.

58. Claim 58 is dependent on claim 56. Claim ~~56~~58 specifies that bend-under is performed by a rotary conveyance means. An example of a rotary conveyance means is the Bend-Under Belt assembly described in the specification because its belts move in a rotary motion as they engage hairs by pinching them between the two rotating belts.

59. Claim 59 is dependent on claim 35. Like the bend-under means described in claim 56, it is a means for preventing build up of processed hairs in the apparatus. Claim 59 specifies the addition of "an apparatus elevation conveyance means." It is for applying a relative conveying force to the surface-attached hair-like fibers. The use of the word relative ~~meaning~~ means that the force may move the apparatus relative to the hairs or vice versa. It works on surface-attached fibers, such as those attached to a surface such as the scalp. The conveying force is applied by elevating a portion of the apparatus away from the surface of hair attachment (for example away from the scalp). The portion being elevated contains an obstacle to hair flow ~~which that~~ is being lifted out of the way to allow hair to pass under it. Where "under" means at a level between the obstacle and the scalp, not necessarily directly under. It should be noted that the apparatus does this in a manner so that the hairs that are lined up and waiting to enter the apparatus in the next processing cycle remain lined up and waiting.

60. Claim 60 is dependent on claim 35. Its first itemized element is "an attachment substance degrading means." This is any means for degrading, dissolving, or otherwise ending the attachment of hair extensions to surface-attached hairs. An example from the specification is using a solvent to dissolve attachment bonds. The third itemized element is "a detached hair extension separation conveyance means." An example from the specification is the bend-under belt system preferentially carrying away detached hair extensions while leaving the scalp hairs behind because the scalp hairs are pulled out of it.

61. Claim 61 is dependent on claim 35. The first itemized element of claim 61 is "a hair flow reversing means." This is any means that causes hair to exit the hair isolation area in generally

the reverse direction that it entered. The phrase "substantially in the reverse net relative direction" is used to make it clear that the exit does not have to be an identical reverse path. The word "relative" is used in this phrase to make it clear that it does not matter whether the hairs are moved or the apparatus is moved because relative movement of two is what we are concerned about.

The second itemized element of claim 61 is an "exiting hair separation means." Its purpose is to intermittently separate the exiting hairs from the hairs in the cued hair supply means. (That is the first-encountered cued hair supply means.) In the specification, the exiting hair separation means is also referred to as "a preliminary obstruction means." In this context, the hair isolation area means and repeating dispensing means would be considered part of what the specification calls the "cardinal processing system." Thus, "a preliminary obstruction means" (called in this claim "an exiting hair separation means") intermittently obstructs hairs in the cued hair supply means from entering the "cardinal processing system."

The third itemized element is "a reversed hair exit pathway means." This element defines placement of an exit pathway means. Its purpose is to direct exiting hairs out of the area between the exiting hair separation means and the hair isolation area. Once these hairs have exited this region. The "exiting hair separation means" is free to allow more hairs from the cued hair supply means to have access to the "repeating dispensing means." Also note, the "reversed hair exit pathway means" can refer to actual physical boundaries of pathway or simply a boundless pathway denoting direction of hair flow or a combination of the two.

62. Claim 62 is an independent claim. Its first itemized element is "a hair attachment area." This is an area where loose hairs are attached to surface-attached hairs. An example is hair extensions being attached to scalp hairs.

The second itemized element is "a hair-extension supply means." The phrase "hair extension supply means" can refer to a raw supply of hair extensions without any bounding or holding means, a supply bounding or holding means alone, or a supply of hair extensions together with its bounding or holding means. Examples of a hair extension bounding or holding means from the specification are the clips of the clip cartridge.

The third itemized element is "a surface-attached hair-like fiber supply means." Examples of surface-attached hair-like fibers are scalp hairs. The phrase "surface-attached hair-like fiber supply means" can refer to a raw supply of surface-attached hair-like fibers without any bounding or guiding means, a bounding or guiding means alone, or a supply of surface-attached hair-like fibers together with its bounding or guiding means.

The fourth itemized element is "a hair attachment substance means." This can include any material that can be used to attach or in aid the attachment of hair extensions to surface-attached hairs. Such a material can be solid, liquid, or gas. For example, the specification often mentions liquid polymers that become solid. However, it also mentions the use of gases that become solid. Further still, the specification mentions use of solid objects as attachment materials, for example, the use of fibers or other strengthening particles to aid attachment adhesives is mentioned.

The fifth element is "a hair attachment substance supply means." This can include but does not have to include a definite physical pathway structure such as a hermetically sealed channel. Also, it should be noted that by definition ~~where~~ the attachment area includes that area where the attachment substance, the surface-attached hairs, and the hair extensions all come together. Claim 62 does not require isolation prior to attachment.

63. Claim 63 is dependent on claim 62. It reminds us that "an attachment substance supply sequencing control means" can be added to the apparatus of 62. Such a mechanism triggers release of the hair attachment substance when some hair extensions and surface-attached hairs are together in the hair attachment area. The device has a processing sequence of events that lead up to a desirable time for this.

64. Claim 64 is an independent claim, however, it shares much the same language as claim 54.

65. Claim 65 is dependent on claim 64, but it ~~also~~ shares much the same language as claim 62.

66. Claim 66 is an independent claim.

The first itemized element is "a hair channel pathway means." It guides hairs that are already attached to a surface into channels. For example, in the case of head hairs, it would guide hairs that are already attached to the scalp into channels.

The second itemized element is "an application area means." It represents an area in which non-surface attached hairs are encouraged to come into proximity to the surface that the surface-attached hairs are already attached. For example, in the case of scalp hairs, this surface would be the scalp. This element is not itself responsible for actually attaching these non-surface attached hairs to this surface. The application area means can be an area that contains nothing but empty space. For example, in the case of attaching a weft that has had adhesive pre-applied to it the weft may self align relative to the scalp surface without the encouragement of any mechanism external to it. The area allotted for the hair weft to do this (come close to the scalp) could be considered "an application area means."

The third itemized element is "a supply means." It supplies the non-surface attached hairs into the application area means. Non-surface-attached meaning hairs, such as hair extensions, that did not start out attached to a surface of attachment, such as the scalp. The "supply means" may be either a supply of non-surface-attached hair-like fibers in isolation, a bounding or holding means for non-surface attached hair-like fibers in isolation, or both of these two things together. This supply means may be configured in the form of the clips of clip cartridge in the specification or it may be configured in the form of a spool for unreeling a hair extension weft as described in the specification, just to mention two examples. When it is said that these hairs are non-surface-attached, it is meant not attached to the surface (such as the scalp) that the surface-attached hairs are. They might, fact be attached together themselves, as they would be in the case of a weft.

The fourth itemized element is "an attachment means." It is for attaching non-surface-attached hair-like fibers to the surface of attachment. It either attaches the non-surface-attached hairs directly to this surface or indirectly through attachment to the existing surface-attached hairs or a combination of these two modes of attachment. It should be noted that this attachment means might use an adhesive that was applied before the non-surface-attached hair-like fibers were supplied to the application area means. The application area means is said to bring the hairs into proximity to the surface of attachment. It should be understood by proximity to mean that which is sufficiently near to allow the attachment means to function.

67. Claim 67 specifies that the "supply means" is "a unified group supply means." By unified group, it is meant that multiple non-surface-attached hairs are unified together into a unit. For example, the hairs maybe unified together into continuous wefts or plugs, as opposed to dispensing hairs that are not unified together.

68. Claim 68 specifies that the application area functions also as an attachment area.

69. Claim 69 specifies that the non-surface-attached hair-like fibers are in the form of a hair plug that is attached to the scalp by placing it under the scalp skin. By plug, it can mean any hair or hair-like fiber living or dead that has some type of widened structure that maybe inserted under the scalp skin.

70. Claim 70 calls for the "hair surface row segregation means" structures of claim 64 to take the form of a cap that fits on the human head. The track cap is an example from the specification of such a structure.

71. No discussion needed.

72. Claim 72 specifies that the "hair processing means" is for the purpose of attaching cosmetic hair extensions to surface-attached hair-like fibers (such as scalp hairs) for cosmetic purposes.

73. Claim 73 specifies that the "hair processing means" is for the purpose of reshaping the cross-sectional shape of surface-attached hair-like fibers (such as scalp hairs) by moving these hairs lengthwise through the cross-sectional reshaping means. Of course, it maybe either the hairs moving, the cross-sectional reshaping means moving, or a combination of the two because this longitudinal movement is relative. To remind us of this, the language "conveyed through relative to" is used in this claim. Cross-sectional reshaping includes the possibility of dramatically changing the shape and also the possibility of keeping the shape substantially the same in pattern while changing cross-sectional size.

74. Claim 74 calls for the hair processing means to apply a coating to surface-attached hair-like fibers (such as scalp hairs). This is any substance for coating a hair. Examples include but are not limited to an adhesive substance, a coloring substance, a chemical curling or straightening substance. Relatively speaking, the surface-attached hairs are moved lengthwise as they pass through coating application means. Of course, it maybe either the hairs moving, the hair coating application means moving, or a combination of the two because this longitudinal movement is relative. To remind us of this, the language "conveyed through relative to" is used in this claim.

75. Claim 75 uses much the same language as claim 69.

~~77.76.~~ Claim ~~7776~~ is dependent on claim 62. Claim ~~7776~~ specifies a situation in which surface-attached hair-like fibers (such as scalp hairs) are supplied by the "surface-attached hair-like fiber supply means" because of the apparatus's relative movement whose direction is greatly parallel to the surface (such as the scalp) to which these hairs are attached. Also, the apparatus's direction of relative movement is mostly continuous between two attachment cycles. This is to say the apparatus is not entirely moved away from, for example the scalp, and repositioned in the manner scissors usually are, but continues on over the scalp to perform the next processing (attachment) cycle on the next batch of hairs.

~~76.77.~~ Claim ~~7677~~ is dependent on claim ~~7776~~. It includes "a bend-under means." Surface-attached hair-like fibers (such as scalp hairs) are conveyed along the lengthwise axes of their shafts. This conveyance is through and under an obstructing portion of the apparatus. "Under an obstructing portion" means at a level between the obstructing portion and the surface of hair attachment (such as the scalp). It does not mean that it has to be directly under the obstructing portion. Conveyance is "relative to said apparatus." Relative in the sense that it doesn't matter whether the fibers are moved or the apparatus is moved. The apparatus is moving along a vector greatly parallel to the surface (such as the scalp) of hair attachment. This movement by itself might cause hairs to stay resident in the apparatus too long, which could cause the apparatus to

become overcrowded with hair. However, it is the action of the bend-under means that conveys at a rate faster than the rate of movement over this surface that prevents this buildup of hair. The bend-under means language of this claim is similar to that used in claim 56.

78. Claim 78 is dependent on claim 62. The preamble of claim 78 shares much of the same language as claim 77. Its three itemized elements share much the same language as claim 61, except that "hair attachment area" is used in claim 78, instead of "hair isolation area means" as used in claim 61.

79. Claim 79 is independent. Its first itemized element specifies "a hair isolation area means." It substantially isolates at least a single surface-attached hair. It does not necessarily have to provide perfect isolation, but just enough to commit the hairs it is isolating during cross-sectional reshaping. That is to say commit them to a group that is or is not being processed at a given time. Its scope is directed toward surface-attached hair-like fibers, such as scalp hairs.

Its second itemized element is "a longitudinal hair movement means." Longitudinal hair movement is movement in the direction along the length of a hair. It says, "so as to convey a length of said surface-attached hair-like fiber." The phrase "a length" means a certain segment or distance measured along the length of such a fiber.

Its third itemized element is "a cross-sectional reshaping means." The explanation given for claim 53 is relevant to this element. Also note, it says, "longitudinally through relative to." This reminds us, it may be either the hairs moving, the hair cross-sectional reshaping means moving, or a combination of the two because this longitudinal movement is relative.

80. Claim 80 specifies that cross-sectional reshaping means is a cutting edge that shaves off materials. Without this qualification, a cross-sectional reshaping means may function by another method such as reshaping by augmenting or ablating in a different manner. For example, it could ablate using a laser instead.

81. Claim 81 shares much the same language as claim 77, except that claim 81 is directed at cross-sectional reshaping.

82. Claim 82 is dependent on claim 35. Claim 82 mentions a "post-isolation hair transport means." This is a means of engaging surface-attached hair-like fibers in any hair isolation area and transporting them further. For example in first embodiment of the specification, the pushout actuator engages hairs in the attachment area (a hair isolation area) and transports them further so as to help them exit.

83. No explanation needed.

Conditional Request for Constructive Assistance

Applicant submits that patentable subject matter is clearly present. If the examiner agrees but does not feel that the present claims are technically adequate, applicant respectfully requests that the examiner write acceptable claims pursuant to MPEP 707.07(j). *Christopher King 04/26/2004*

Very Respectfully,

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King

04/26/2004

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26 April 2004

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